The Military Decision-making Process: Integrating Analog and Digital TTPs

by Captain Timothy S. Jacobsen

For many leaders, the Military Decision-making Process (MDMP) is viewed as a painful but necessary process to be avoided if at all possible. Their typical reaction — short-cutting the process — usually leads to a unit's demise at the CMTCs.

Over the course of the last year, our plans cell integrated some simple analog and digital TTPs (tactics, techniques, and procedures) that made our MDMP a quicker, easier, and less painful process without deleting or short-cutting any steps.

Please note that, as a result of the frequent software upgrades to the ABCS (Army Battle Command System) computers, I did not include TTPs specific to these computers because they would most likely be obsolete prior to publication. Instead, the digital TTPs focus more on generic digital TTPs that would be compatible with any version of ABCS software.

The first key to success is an ongoing MDMP train-up. MDMP is a perishable skill and being well-versed in it makes the process much more fluid and shorter. This train-up includes identifying your TTPs prior to and during the train-up and then rehearsing those TTPs during the train-up. Several general TTPs for simplifying the MDMP:

Analog and Digital TTPs

- Create a detailed list of all the minute tasks that need to be accomplished during each step of the MDMP. Assign primary and alternate members of the plans cell to each task on the list. Who copies and distributes higher orders to the BOSs (Battlefield Operating Systems) when they are published? Who makes the graphics? Who writes the risk assessment? [See Figure 1. All figures follow this article, beginning on Page 43.] Practice these assigned tasks in the train-up. This way everyone knows what to do without being told. The entire process becomes a battle drill for the plans cell.

- Cross-train tasks so that when one BOS finishes their piece of the MDMP they can provide assistance to the other overwhelmed BOSs. Too often, these efforts are compartmentalized. Cross-training makes the work load of the MDMP more equitable across all the BOSs.

- Create an MS Excel spreadsheet that breaks down the MDMP, by phase, into percentages of time needed. For example, columns that read "Mission Analysis 20%," "Mission Analysis Brief 5%," "COA Development 10%," etc. Then, include rows with the various total amounts of time available to mission execution, i.e., "12 hours," "18 hours," "24 hours," "72 hours," or whatever is applicable. Have that number divided up by the $^1/_3$-$^2/_3$ rule, $^1/_4$-$^3/_4$, or $^1/_5$-$^4/_5$, whichever your unit uses. Then set up equations that calculate times for each step of the MDMP based on the percentages and total time available. [See Figure 2] Once created, this tool will be invaluable in establishing an initial timeline — one that is reasonable, understood by all, and plausible. If trained under different time-constrained environments, this tool allows a staff to optimize their use of time to produce a decent product.

- Develop a system for RFIs (Requests for Information), both for RFIs to higher headquarters and RFIs from subordinate units. Designate one person to manage each — to be as proficient as necessary, this should be that person's primary task, for example, the designated person might be one of the LNOs (liaison officers). Each maintains a log and through either analog or digital means submits, answers, or refers the RFIs. A good analog RFI model is to have pre-made carbon RFI sheets created by the print plant, with a copy maintained by the requester, a copy maintained in the log, and a copy to higher headquarters. A good digital RFI model is to submit RFIs on pre-formatted MS PowerPoint slides over the tactical internet. This digital method is much faster than hand delivery by LNO, if you have the means.

Digital TTPs

Set up a LAN within the plans cell, with all computers connected. Create shared folders on each BOS computer so that everyone can access any briefings, orders, annexes, or matrices within the cell. This saves more time than any other TTP we used. In a digitized unit, you can go one step further by having higher and lower headquarters share folders; this technique promotes parallel planning, and eases distribution of MDMP products and orders.

Establish a naming convention for files (and folders) based on the OPORD number and what the file is. For example, *00-10-01 ATK – Annex B Intel*. Otherwise, you will end up with several files titled *Attack Annex* or *WARNO #1* with no idea exactly what files contain.

The more specific TTPs are organized by MDMP step, as per FM 101-5:

Step 1: Receipt of Mission

Digital: Ensure the higher headquarters shares out folders where they keep their MDMP products, in addition to posting orders to their tactical internet site. This allows maximum parallel planning, because at any time anyone connected to the tactical internet can observe the higher headquarters MDMP products in progress and pull orders that are posted. At the same time, share out your folders to allow subordinate units to parallel plan with you.

STEP 2: Mission Analysis

Analog and Digital: When reading through and analyzing the higher headquarters order, use different color highlighters to differentiate between different types of information. For example, highlight all specified tasks in blue, all constraints in pink, available assets in orange, etc. This makes it much easier and quicker to organize information for analysis, briefings, and orders.

Analog and Digital: Pre-format as many parts of the mission analysis as you can to speed up the process. For example, have mission statements already written for each type of operation, so that all you have to do is add in the date-time-group, task, and purpose. Pre-format WARNOs so that an NCO can cut and paste necessary sections from the higher headquarters order without the planner writing it from scratch each time.

Analog and Digital: Make a list of preset initial CCIR (Commander's Critical Information Requirements) for each type of operation. Minor adjustments will have to be made, of course, based on the specifics from the higher headquarters order, but at least you won't be starting from ground zero each time. Initial PIR (Priority Intelligence Requirements), the initial R&S (Reconnaissance & Surveillance) plan, should focus on confirming/denying enemy courses of action. Continue to develop and refine CCIR throughout the MDMP.

Analog and Digital: Create an IPB (Intelligence Preparation of the Battlefield) team to assist the S2 in this step of mission analysis. The team should contain, at a minimum, the S2 planner, R&S planner, an engineer planner, and an MI/intel planner. Using a team method speeds up the process and helps to prevent compartmentalization of information between the BOSs.

Digital: Get the DTSS (Digital Terrain Support System) team to print up maps that have the MCOO (Modified Combined Obstacle Overlay) already on them. They can add different colors for various slopes/restricted terrain, add mobility corridors, even add good OP (observation post) locations and a unit's TIRS (Terrain Index Reference System). These maps can be printed at any scale and distributed throughout the unit, so everyone is on the same sheet of music. This prevents the engineer planner from having to recreate a new MCOO and re-analyze the terrain for each new operation. Using this in conjunction with Terrabase II and Mr. SID can provide invaluable terrain analysis.

Digital: Create an MS Excel spreadsheet template for mission analysis, containing all the necessary information (specified tasks, assets available, constraints, etc.). [See Figure 3] Share this file, so that each BOS can open it simultaneously and update specified tasks, assets, constraints, etc. As each BOS updates this information and saves it, it populates everyone else's spreadsheets, as well as the master file. In addition, other spreadsheets can be created to assist in the mission analysis process. For example, a combat power comparison chart can be made with mathematical formulas and the combat correction factors that automatically calculates your combat power ratios. These can then easily be transferred into a pre-formatted mission analysis briefing presentation.

STEP 3: Course of Action (COA) Development

Analog and Digital: Create a commander's guidance checklist. Use the one in Appendix B of *FM 101-5-1* as a guideline, then let each BOS planner figure out what specifically he/she needs to know from the commander. Turn this into a quick reference checklist for the commander to use each time; it will prevent anything from being missed and allow the commander to express himself in a logical order that everyone understands. Lay a blank overlay over the map and allow the commander to draw several quick sketches of the COAs he wants to fight. Use a micro-cassette recorder to record the commander's guidance. You can then reference it throughout the MDMP and avoid having staff officers ask, "Now what exactly did the commander say he wanted to do there?"

Analog and Digital: Have the DTSS Team print up a 1-to-25,000 scale map with MCOO, mobility corridors, OPs, and TIRS. Laminate it, and post it in the plans cell to use for drawing up COA sketches and wargaming. It allows everyone to gather around it and still be able to see, and can be used for OPORD briefings so the entire audience can see.

Analog and Digital: Create a preformatted concept statement/paragraph that only requires changing the specifics of the statement to fit the current operation. Use the statement on page 5-15 of *FM 101-5* as a base model and adapt it to fit the commander and planners' preferences. This pre-written statement serves as a template to speed up the process and prevent the accidental omission of any part of the statement.

Analog and Digital: COA development is actually the first wargame if done properly, and is conducted by several key members of the plans cell. Determine how to best meet the commander's guidance, array forces based on combat power ratios, and develop various schemes of maneuver based on the following model, from *FM 101-5*:

1. Analyze relative combat power.
2. Generate options.
   a. Determine the decisive point
   b. Determine the purpose to be achieved at the decisive point (main effort)
   c. Determine the purposes of the supporting efforts
   d. Determine the task at the decisive point (main effort)
   e. Determine the tasks of the supporting efforts
3. Array initial forces.
4. Develop the scheme of maneuver.
5. Assign headquarters.
6. Prepare COA statements and sketches.

Analog and Digital: As a part of COA development, create a more detailed R&S plan, to include a rear area R&S plan. Rear area reconnaissance, surveillance, and security are frequently overlooked when developing an R&S plan. This lack of rear area security allows enemy dismounted reconnaissance teams and special operations forces to operate in rear areas without opposition, causing havoc. A technique that worked well for us was to divide up the area behind the LD (line of departure) or your maneuvering forces, and assign each unit an area of responsibility. Come up with a standard for evaluating threat levels of rear area security. For example, statuses could be:

Green - Cleared by dismounted patrols within 12 hours (all areas within direct fire range of friendly forces need to be this status)

Amber - Cleared by aerial division reconnaissance team (DRT) sweeps within 24 hours (all areas within observation of friendly forces need to be this status)

Red - Not cleared within the last 24 hours (areas outside of observation and direct fire range of friendly forces can be this status)

Analog and Digital: Create preplanned TIRS for ease of controlling unit movements. Use prominent terrain features. Integrate the TIRS into the

plan, starting during COA development. Reference the TIRS in orders, rehearsals, and during the battle for better command and control. It can also be used as a part of the naming convention for numbering NAIs (named areas of interest), TAIs (targeted areas of interest), OPs, ABFs (attack-by-fire positions), etc.

Analog and Digital: Come up with a specific task list with detailed definitions based on *FM 101-5-1,* but with the commander's intentions integrated into them. In this way, everyone in the unit knows exactly what is expected of them when given a particular task. For example, the *FM 101-5-1* definitions of *block* and *fix* are as follows:

Block: To deny the enemy access to a given area or to prevent enemy advance in a given direction or an avenue of approach.

Fix: To prevent the enemy from moving any part of his forces either from a specific location or for a specific period of time by holding or surrounding them to prevent their withdrawal for use elsewhere.

When a unit is given the task to *block*, can they allow the enemy to escape as long as they deny the enemy the directed terrain? Some commanders say yes; some say no. Some commanders believe that to *fix* the enemy is an implied task in *block*. Find out your commander's expectations and integrate them into specific definitions for your unit. Some definitions in *FM 101-5-1*, such as *defeat*, are very vague and leave much to the imagination of the unit executing the operation. Remove the ambiguity, quantify all of the tasks, so everyone knows exactly what the commander wants.

Analog and Digital: Create a specific graphics-naming convention, not just in the usual sense of naming all brigade objectives after football teams, etc., but by assigning certain names to each unit. For example, 1-22 IN's objectives are always OBJ Rams and OBJ Chiefs; 1-66 AR's objectives are always OBJ Steelers and OBJ Patriots; and 3-66 AR's objectives are always OBJ Seahawks and OBJ 49ers. This way, at just a glance at the graphics without any order, 1-66 AR immediately knows where their objective is and what the overall brigade concept looks like. Do this with all major graphic control measures; publish it in advance, and train it. Operations will become much simpler and easier to understand, facilitating higher proficiency in units.

Analog and Digital: Conduct the COA brief as directed as optional in *FM 101-5.* Use this as a kind of azimuth check with the commander to ensure that the COAs created and the initial commander's intent drawn up are in accordance with his guidance.

Analog and Digital: Using the Maps & Overlays function of the MCS (Maneuver Control System) or MCS-Light (a laptop version of the MCS), begin creating the graphics digitally based on the COAs developed. Refine the digital graphics throughout the remainder of the MDMP. [This graphic can be viewed on the *ARMOR* website under the "Downloads" link at: *www.knox.army.mil/armormag*.]

STEP 4: Course of Action (COA) Analysis

Analog and Digital: COA analysis is really the second wargame conducted during the MDMP. The keys to a successful COA analysis are coming to the wargame with fully developed COAs (both friendly and enemy), understanding what assumptions remain unanswered, and having a strictly regimented system for wargaming using action/reaction/counteraction, designated critical events, and a timeline. The XO or S3 should referee the wargaming with an iron fist to enforce adherence to the established system.

Analog and Digital: Everyone is familiar with the typical event template showing time phase lines for enemy movement and differences in enemy courses of action. Create a friendly event template as well, focusing especially on time phase lines. With both of these event templates, you can fast forward to any critical event in an operation and still keep the time-distance in perspective. Many units wargame an operation from start to finish, taking several hours just to do one COA. Using these two event templates, a unit can fast forward and only wargame the critical events, allowing time to do multiple COAs.

Analog and Digital: Wargame on a 1:25,000 scale map (a DTSS one would be best). Place a blank sheet of acetate on top of the map and all overlays. Use this to record changes/additions to the graphics without destroying the original overlays.

Analog and Digital: The critical data to come out of the wargame are a specific set of CCIR, a list of decision points (DPs), coordinated branch plans, and the identification and mitigation of tactical risks. Many units focus only on the synchronization of BOSs, but this is only one small part of what needs to come out of MDMP wargames. CCIR are only the pieces of information that the commander requires to make decisions. Some units list excessive CCIR that they think the commander should know, even if that information is not necessary for the commander to make decisions. For example, the location of enemy dismounted recon, loss of a sensitive item, or location of Q36 radar. This information is important, but will not usually cause the commander to change his course of action/scheme of maneuver. All CCIR are tied to decision points. Other important friendly or enemy information that does not cause the commander to change the scheme of maneuver fall under IR (Information Requirements) rather than CCIR. Both are important, and listed in WARNOs/OPORDs under coordinating instructions. CCIR are refined all throughout the MDMP process. For example, the initial PIR created during mission analysis should focus on confirming/denying enemy COAs, but by the time you get to COA analysis, some of the initial PIR are getting answered, and by the time the order is issued, PIR (along with the other CCIR) become triggers at decision points to initiate branch plans. Fully develop all branch plans by integrating the BOSs, quickly wargame through the branch plans at the end of the base wargame, and publish the branch plans in the Scheme of Maneuver paragraph of the OPORD. Additionally, consider identifying tactical risks, and either make minor adjustments to the course of action or develop branch plans to counter potential problems. Spell out these risks and controls, along with the safety risks, in the overall Risk Assessment Worksheet for that operation. Ensure a detailed DSM (Decision Support Matrix) is used to record all of the decision points, the associated CCIR, and the branch plans. Also publish the DSM as a part of the OPORD for commanders and staffs to use and fight from.

Digital: Create an MS Excel spreadsheet synchronization matrix template, containing all necessary information for each BOS. [See Figure 4] Share this file, and each BOS can open it simultaneously and update information during the wargame. As each BOS updates this information and saves it, it popu-

lates everyone else's spreadsheets, along with the master file. Using this format while wargaming has several benefits. First, it frees up whoever used to be the recorder to do something more productive. Second, it speeds up the wargame since you no longer have to wait on the recorder to get all the information on the sync matrix. Everyone can continue to enter the information as the wargame continues. The process can be speeded up even more if only friendly and enemy maneuver are discussed during the wargame. Using the shared sync matrix allows this because the information from the other BOSs is still captured — non-maneuver BOSs continue to enter information into the shared sync matrix while the maneuver action/reaction/counteraction is being discussed. This dramatically increases the speed of wargaming, permitting multiple COAs to be wargamed in the same amount of time most units could only accomplish one COA.

Digital: Some units may also have planning computer systems that permit digital wargaming, such as the BPV (Battlefield Planning and Visualization computer). The current systems are helpful only under certain circumstances, due to the large amount of time necessary to input all required information. The exceptions are if higher headquarters provides the data files for the BPV containing some of the required information, or if there is a substantial amount of planning time — more than 36 hours. Otherwise, with the current systems and software, the use of these planning systems is too cumbersome and time-consuming to be feasible.

STEP 5: Course of Action (COA) Comparison

Analog and Digital: Have the commander designate or approve the evaluation criteria early in the MDMP, so the staff can analyze the COAs throughout COA development and COA analysis. Each BOS should keep track of the positive and negative aspects of each COA, especially in respect to the command-designated evaluation criteria, so by the time COA analysis is complete, the staff is ready to quickly organize their comments and conduct a COA decision briefing with the commander. Each BOS presents their findings for each COA, and then the staff collectively recommends their best choice COA.

STEP 6: Course of Action (COA) Approval

Analog and Digital: During COA Approval, conduct a third and final wargame of the MDMP process. This wargame is not a fighting wargame, but a by-phase synchronization drill to ensure all BOSs are integrated into the plan. This wargame amounts to the S2 giving an enemy set for that phase, followed by each BOS in turn discussing how their assets are integrated into the fight, focusing on triggers and event timing. No action/reaction/counteraction is done during this wargame. If a shared synchronization matrix is used as discussed earlier, then this wargame amounts to little more than reviewing the sync matrix.

Notes on Wargames

Throughout this article, I discussed three distinct wargames used during different steps of the MDMP. COA development, if done properly, is the first wargame. The second wargame, during COA analysis, should consist of wargaming multiple friendly COAs against multiple enemy COAs. It is time-consuming, possibly even unfeasible, to conduct a full synchronization wargame for each COA.

To save time without cutting corners, COA analysis should be done through action/reaction/counteraction by the S2, S3, and fire supporter. All other BOSs observe, but should speak by exception only. The purpose of these wargames is not to synchronize the BOSs, but to evaluate each friendly COA to determine which will most effectively achieve the unit's purpose. In COA approval, once the commander has approved the friendly COA, the unit should conduct the third and final wargame. This wargame is the detailed BOS synchronization necessary for orders production.

Many units try to accomplish this BOS synchronization for each COA during COA analysis, leading to staffs either wargaming only one COA or several with little detail. Therefore, only conduct this detailed BOS synchronization wargame on one COA, the COA already approved by the commander. The MDMP proves to be most efficient and effective using this three-wargame method.

Digital: Occasionally, the commander is tied up elsewhere, and is unavailable to make the decision. ABCS-equipped units have the ability to "drag and drop" files from one computer's shared folders to another's shared folders. Using this function for transporting files, the planners can send COAs and recommendations to the commander wherever he may be: at the TOC, the TAC, or at a subordinate unit; anywhere that also has ABCS systems.

The commander then can review the files and approve a particular COA without actually attending a COA decision briefing at the plans cell.

STEP 7: Orders Production

Digital: Using the Maps & Overlays function of the MCS or MCS-Light, complete the graphics digitally, based on the approved COA and branch plans developed. These overlays can be saved as a file and distributed digitally along with the orders. For redundancy in overlay distribution there are a couple of options. First, send them digitally along with the orders as discussed below. Second, if you get a 36-inch plotter (we used a HP DesignJet 755CM), you can print the overlays from the MCS or MCS-Light directly onto paper or acetate designed for the plotter. The paper copy is just like a Diazo printout, only much more legible. The acetate copy can be laid directly on a map. The MCS systems allow you to print to any map scale accurately. These digital overlays are better for several reasons. They save time and manpower by freeing up soldiers who would normally hand-copy numerous overlays. Additionally, every digital and hard copy overlay is identical. This prevents the unintentional distortion of overlays by soldiers who hand copy them with little to no sleep, and ultimately can prevent fratricide.

Digital: In the ideal world where digital file transfers occur flawlessly and every attached unit has digital systems, there is no need for multiple means of redundancy. However, regardless of how digital a unit may be, it will almost always have analog units attached to it, and file transfers will frequently not reach every unit, so redundancy is necessary. There are many ways to ensure every unit receives all the information they need.

First, post all MDMP products and orders on the division's tactical internet web page. Any digital unit can then access this using Internet Explorer or Netscape.

Position (Name)	Receipt of Order	Mission Analysis	COA Development	COA Analysis/Wargaming	Orders Production
CDR	❑ Review Division Order	❑ Attend MA Brief ❑ Give Commander's Guidance	❑ Attend COA Brief ❑ Give refinement guidance	❑ Receive Wargame update from XO ❑ Give refinement guidance	❑ Attend OPORD Brief ❑ Brief Commander's Intent
XO	❑ Review Division Order ❑ Establish Initial Timeline	❑ Supervise MA ❑ Sync staff for MA Brief ❑ Attend MA Brief ❑ Enforce Timeline	❑ Supervise COA Development ❑ Sync staff for COA Brief ❑ Attend COA Brief ❑ Enforce Timeline	❑ Drive Wargame ❑ Identify strengths and weaknesses for each COA ❑ Update CDR on Wargame results ❑ Enforce Timeline	❑ Supervise OPORD production ❑ Sync staff for OPORD Brief ❑ Attend OPORD Brief ❑ Enforce Timeline
S2/S2 Planner	❑ Read Base Order and Intel Annex ❑ Begin IPB ❑ Begin Mission Analysis ❑ Advise R&S Planner on NAIs and R&S Plan	❑ Complete IPB ❑ Complete MCOO ❑ Determine effects of terrain and weather ❑ Complete SITTEMPs ❑ Determine possible enemy COAs ❑ Develop proposed PIR ❑ Provide slides to S3 Plans Clerk for MA Brief ❑ Provide WARNO #2 info to S3 Plans NCO	❑ Advise R&S Planner on NAIs and R&S Plan ❑ Refine SITTEMPs and enemy COAs ❑ Sync with other BOSs	❑ Fight enemy most probable COA ❑ Advise R&S Planner on NAIs and R&S Plan ❑ Provide WARNO #3 info to S3 Plans NCO	❑ Refine Intel Annex ❑ Provide slides to S3 Plans Clerk for OPORD Brief
S2 Plans Clerk	❑ Copy Division Overlays ❑ Assist S2 Planner	❑ Refine digital overlays/SITTEMPs ❑ Assist S2 Planner	❑ Refine digital overlays/SITTEMPs ❑ Assist S2 Planner	❑ Refine digital overlays/SITTEMPs ❑ Assist S2 Planner	❑ Finish digital overlays/SITTEMPs ❑ Assist S2 Planner
R&S Planner	❑ Read Base Order and Intel Annex ❑ Begin IPB ❑ Begin Mission Analysis ❑ Begin R&S Plan	❑ Complete IPB ❑ Identify R&S facts, assumptions, constraints, tasks, and forces available ❑ Advise S2 on enemy recon ❑ Provide slides to S3 Plans Clerk for MA Brief ❑ Initial R&S Plan complete ❑ Provide WARNO #2 info to S3 Plans NCO	❑ Provide R&S concept to S3 Planner ❑ Refine initial R&S Plan ❑ Sync with other BOSs	❑ Final R&S Plan complete ❑ Employ recon assets according to plan when directed ❑ Provide WARNO #3 info to S3 Plans NCO	❑ Refine R&S Annex
S3/S3 Planner	❑ Read Base Order ❑ Begin Mission Analysis ❑ Provide WARNO #1 info to S3 Plans NCO	❑ Analyze mission, intent, and concept 2 levels higher ❑ Identify Maneuver facts, assumptions, constraints, tasks, and forces available ❑ Propose a restated mission ❑ Provide slides to S3 Plans Clerk for MA Brief ❑ Provide WARNO #2 info to S3 Plans NCO	❑ Develop COA sketch and statement ❑ Begin developing scheme of maneuver ❑ Provide slides to S3 Plans Clerk for COA Brief ❑ Sync with other BOSs	❑ Fight friendly COAs ❑ Refine COAs ❑ Develop DSM and DST ❑ Provide WARNO #3 info to S3 Plans NCO	❑ Write Base OPORD and Task Org ❑ Supervise assembly of OPORD and all overlays
S3 Plans NCO	❑ Write/Consolidate WARNO #1 ❑ Assist S3 Planner	❑ Identify risks to the force and risks to the mission ❑ Write/Consolidate WARNO #2 ❑ Assist S3 Planner	❑ Refine risks to the force and risks to the mission ❑ Begin writing WARNO #3 ❑ Assist S3 Planner	❑ Write/Consolidate WARNO #3 ❑ Assist S3 Planner	❑ Conduct risk assessment ❑ Assist S3 Planner

Figure 1: Example partial list of MDMP Duties & Responsibilities. (An expanded version of duties and responsibilities is available on our website under the "Downloads" link at: *www.knox.army.mil/armormag.*

Second, send products and orders via ABCS systems — either by the "drag and drop" method or by FTP (File Transfer Protocol).

Third, give a verbal orders briefing, if possible.

Finally, hand out hard copies of the order to unit commanders or LNOs. These multiple routes of publishing MDMP products and orders ensures situational awareness about the upcoming operation throughout the unit.

Digital: In order to talk digitally across the tactical internet between computers, you currently need to know the computer's IP address. IP addresses frequently look like *190.34.145.21*, and remembering sets of numbers for each computer can be difficult. Create an IP address book that lists any and all computers you might need to communicate with, to include: higher headquarters, other staff sections, the TOC, the TAC, the rear CP, and subordinate units. This makes products and orders distribution much more efficient. Eventually, systems will allow e-mail style digital address books on the computers that facilitate this even more. Setting these up in advance significantly reduces the initial difficulty of fighting with digital systems.

Whether an analog or digital unit, the implementation of simple TTPs can speed up and ease the process without deleting or shortcutting the MDMP. With these and other TTPs, units can create a Plans SOP that facilitates more frequent and painless training and execution of the MDMP. With MDMP skills being so perishable, it is also important for staffs to practice the MDMP monthly, especially if there is a high turnover of personnel in the plans cell.

The MDMP can be very effective if done in an efficient manner. Unfortunately, most staffs muddle through sometimes vague guidelines, and develop their own methods for utilizing the MDMP, often unsuccessfully. These TTPs will allow both new and experienced staffs to conduct the MDMP more efficiently, without having to reinvent the wheel.

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TIME TO MISSION EXECUTION	PLANNING TIME (IN MINS)	MISSION ANALYSIS (IN MINS)	MISS ANAL BRIEFING (IN MINS)	COA DEVELOP (IN MINS)	WARGAME (IN MINS)	ORDER PREP (IN MINS)	TOTAL TIME AVAIL (IN HRS)
TOTAL HRS	**1/4 Time**	**20%**	**5%**	**10%**	**30%**	**35%**	
2	30	6	2	3	9	11	0.5
4	60	12	3	6	18	21	1.0
6	90	18	5	9	27	32	1.5
8	120	24	6	12	36	42	2.0
10	150	30	8	15	45	53	2.5
12	180	36	9	18	54	63	3.0
14	210	42	11	21	63	74	3.5
16	240	48	12	24	72	84	4.0
18	270	54	14	27	81	95	4.5
20	300	60	15	30	90	105	5.0
22	330	66	17	33	99	116	5.5
24	360	72	18	36	108	126	6.0
26	390	78	20	39	117	137	6.5
28	420	84	21	42	126	147	7.0
30	450	90	23	45	135	158	7.5
32	480	96	24	48	144	168	8.0
34	510	102	26	51	153	179	8.5
36	540	108	27	54	162	189	9.0
38	570	114	29	57	171	200	9.5
40	600	120	30	60	180	210	10.0
42	630	126	32	63	189	221	10.5
44	660	132	33	66	198	231	11.0
46	690	138	35	69	207	242	11.5
48	720	144	36	72	216	252	12.0
50	750	150	38	75	225	263	12.5
52	780	156	39	78	234	273	13.0
54	810	162	41	81	243	284	13.5
56	840	168	42	84	252	294	14.0
58	870	174	44	87	261	305	14.5
60	900	180	45	90	270	315	15.0
62	930	186	47	93	279	326	15.5
64	960	192	48	96	288	336	16.0
66	990	198	50	99	297	347	16.5
68	1020	204	51	102	306	357	17.0
70	1050	210	53	105	315	368	17.5
72	1080	216	54	108	324	378	18.0
74	1110	222	56	111	333	389	18.5
76	1140	228	57	114	342	399	19.0
78	1170	234	59	117	351	410	19.5
80	1200	240	60	120	360	420	20.0
82	1230	246	62	123	369	431	20.5
84	1260	252	63	126	378	441	21.0
86	1290	258	65	129	387	452	21.5
88	1320	264	66	132	396	462	22.0
90	1350	270	68	135	405	473	22.5
92	1380	276	69	138	414	483	23.0
94	1410	282	71	141	423	494	23.5
96	1440	288	72	144	432	504	24.0
98	1470	294	74	147	441	515	24.5
100	1500	300	75	150	450	525	25.0
102	1530	306	77	153	459	536	25.5
104	1560	312	78	156	468	546	26.0
106	1590	318	80	159	477	557	26.5
108	1620	324	81	162	486	567	27.0
110	1650	330	83	165	495	578	27.5
112	1680	336	84	168	504	588	28.0
114	1710	342	86	171	513	599	28.5
116	1740	348	87	174	522	609	29.0
118	1770	354	89	177	531	620	29.5
120	1800	360	90	180	540	630	30.0
TOTAL HRS	**1/4 Time**	**20%**	**5%**	**10%**	**30%**	**35%**	

Figure 2: Example MDMP Planning Time Guidelines

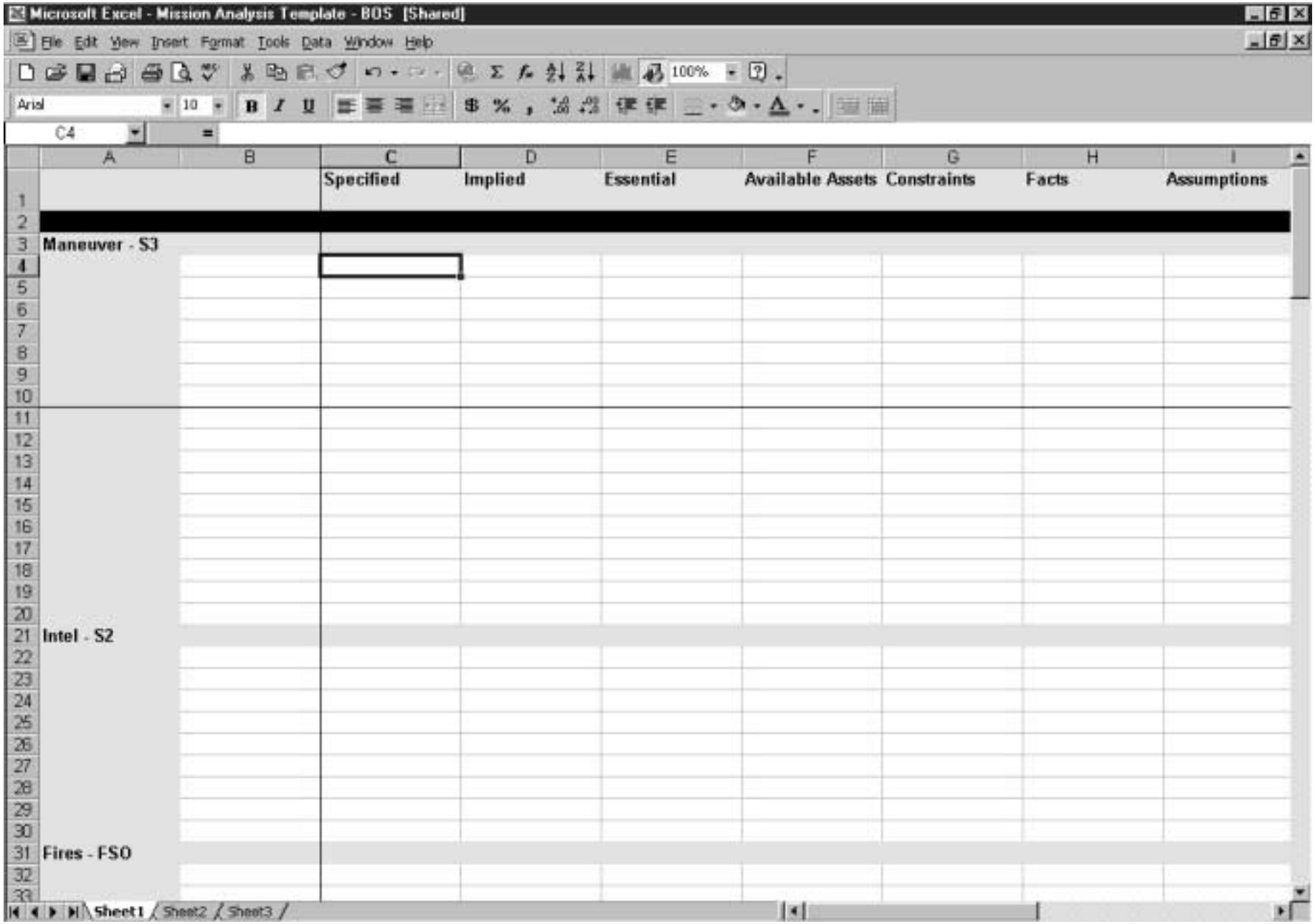
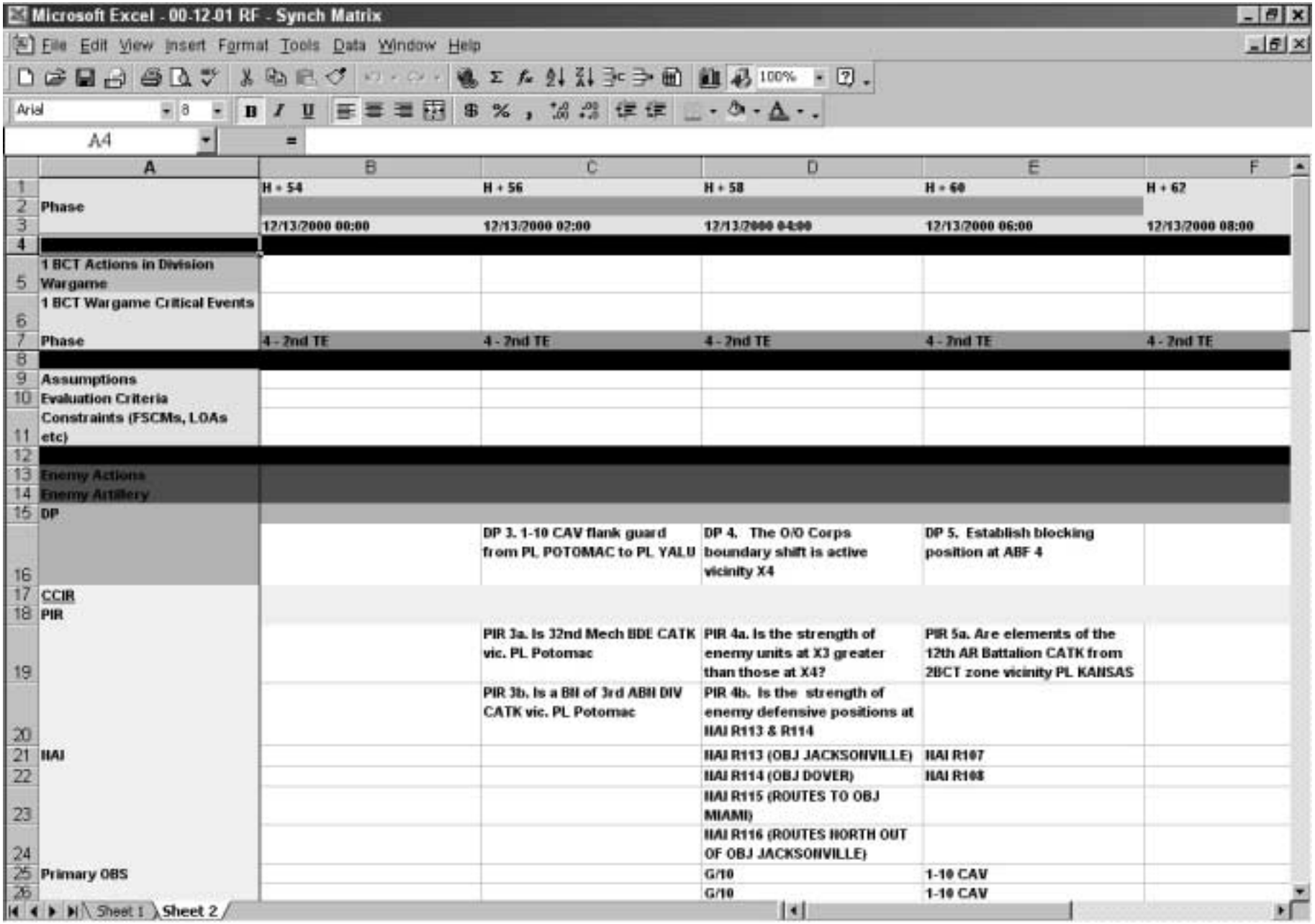


Figure 3: Example Partial Shared Mission Analysis Matrix



	A	B	C	D	E	F
1		H + 54	H + 56	H + 58	H + 60	H + 62
2	Phase					
3		12/13/2000 00:00	12/13/2000 02:00	12/13/2000 04:00	12/13/2000 06:00	12/13/2000 08:00
4						
5	1 BCT Actions in Division Wargame					
6	1 BCT Wargame Critical Events					
7	Phase	4 - 2nd TE	4 - 2nd TE	4 - 2nd TE	4 - 2nd TE	4 - 2nd TE
8						
9	Assumptions					
10	Evaluation Criteria					
11	Constraints (FSCMs, LOAs etc)					
12						
13	Enemy Actions					
14	Enemy Artillery					
15	DP					
16			DP 3. 1-10 CAV flank guard from PL POTOMAC to PL YALU	DP 4. The O/O Corps boundary shift is active vicinity X4	DP 5. Establish blocking position at ABF 4	
17	CCIR					
18	PIR					
19			PIR 3a. Is 32nd Mech BDE CATK vic. PL Potomac	PIR 4a. Is the strength of enemy units at X3 greater than those at X4?	PIR 5a. Are elements of the 12th AR Battalion CATK from 2BCT zone vicinity PL KANSAS	
20			PIR 3b. Is a BN of 3rd ABN DIV CATK vic. PL Potomac	PIR 4b. Is the strength of enemy defensive positions at HAI R113 & R114		
21	HAI			HAI R113 (OBJ JACKSONVILLE)	HAI R107	
22				HAI R114 (OBJ DOVER)	HAI R108	
23				HAI R115 (ROUTES TO OBJ MIAMI)		
24				HAI R116 (ROUTES NORTH OUT OF OBJ JACKSONVILLE)		
25	Primary OBS			G/10	1-10 CAV	
26				G/10	1-10 CAV	

Figure 4: Example Partial Shared Synchronization Matrix